

Appl. No. 10/612,976
Reply to Office Action of July 18, 2007

REMARKS/ARGUMENTS

Claim Rejections 35 U.S.C. 112

It appears the basis of the lack of enablement rejection that the Examiner has made is that a person skilled in the art would not understand how to perform "MIMO" processing on a set of signals. It is respectfully submitted that once a set of signals have been identified for processing, many ways of performing MIMO processing are available to those skilled in the art and it is not necessary to limit the application to any such one, nor is it necessary to describe in detail any of these methods. The Examiner is respectfully requested to reconsider and withdraw the rejections under 35 U.S.C. 112.

Claim Rejections 35 U.S.C. 103

The Examiner has withdrawn the anticipation rejection (citing Feuerstein) and has now rejected the broadest claims under 35 U.S.C. 103(a), citing the combination of Feuerstein and Lundby et al.

The Examiner argues that Feuerstein discloses:

"the N transmit signals collectively comprise a plurality N of main signals (Fig. 6, elements α , β , γ) and a plurality of delayed main signals each delayed main signal being a delayed version of one of the main signals (Fig. 6, outputs of elements 621, 622, 623; column 7, lines 15-40; wherein the delayed signals are the outputs of the delay elements 621, 622, 623 that are fed to elements 651, 652, 662 to produce the beams 1, 2 ... 12), wherein each transmit signal comprises a combination of only a respective main signal of the plurality of N main signals and at least one respective delayed main signal of the plurality of delayed main signals (Fig. 6, elements 651, 652, 662 outputs; column 7, lines 1-56, wherein the outputs are obtained by combining the main signal with the delayed signals, the combination being provided by the switch matrices whose weights can be adjusted to give only one main signal per beam).", emphasis added.

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The above statement includes numerous references to N transmit antennas and N signals. The Examiner goes on to contradict himself by saying that in fact Feuerstein does not disclose N transmit antennas. As such, the entire statement by the Examiner concerning Feuerstein is incorrect.

Furthermore, the Examiner argues that the weights in the switch matrices 651, 652, etc. in Figure 6 of Feuerstein can be appropriately selected such that each beam only receives one main signal. That would defeat the purpose of routing each main signal to each of the switching matrices. Why would the implementers of Feuerstein et al. bother implementing the splitters 631, 632, 633 to route each main signal to each switch matrix only to set the weight to zero on all but one of the switch matrices? It is respectfully submitted that a person skilled in the art would not contemplate setting the weights in that manner as such would defeat the purpose of Feuerstein et al. More specifically, Feuerstein et al. specifically teaches away from setting the weights to zero. The Examiner goes on to discuss Lundby. With respect, it is not clear what the relevance of Lundby et al. is to the subject claims. In Lundby, the signal to be transmitted is demultiplexed into two distinct signals by demultiplexer 104 (see Figure 2). Each distinct signal is then transmitted on a respective transmit antenna. The Examiner indicates that this would allow the advantages of antenna diversity to be employed with the system of Feuerstein. However, there is no antenna diversity in Lundby et al. It is strictly a multiplexing arrangement. Antenna diversity implies the same information as transmitted on multiple antennas, something that is not done in Lundby et al. Thus, combining Lundby et al with Feuerstein et al. would not lead a person skilled in the art to come up with a diversity scheme such as claimed in claim 1.

The Examiner is required to provide a valid reason for combining references in order to substantiate a 35 U.S.C. 103 rejection. While the Examiner has provided a reason, it is respectfully submitted that this reason is not valid because the assumptions upon which it is based are incorrect as discussed above.

In summary, it is respectfully submitted that for the most part, the references cited by the Examiner in the combination used to reject claim 1 do not teach the claimed elements as alleged by the Examiner, and the Examiner has failed to provide a valid reason for combining the references. As such, the Examiner is respectfully requested to withdraw the 35 U.S.C. 103

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rejection of claim 1.

All of the claims that are rejected in the Office Action rely on the combination of Feuerstein and Lundby. Thus, on the basis of the discussion above, the Examiner is respectfully requested to withdraw all of the 35 U.S.C. 103(a) rejections of the claims.

In view of the foregoing, early favorable consideration of this application is earnestly solicited.

Respectfully submitted,

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